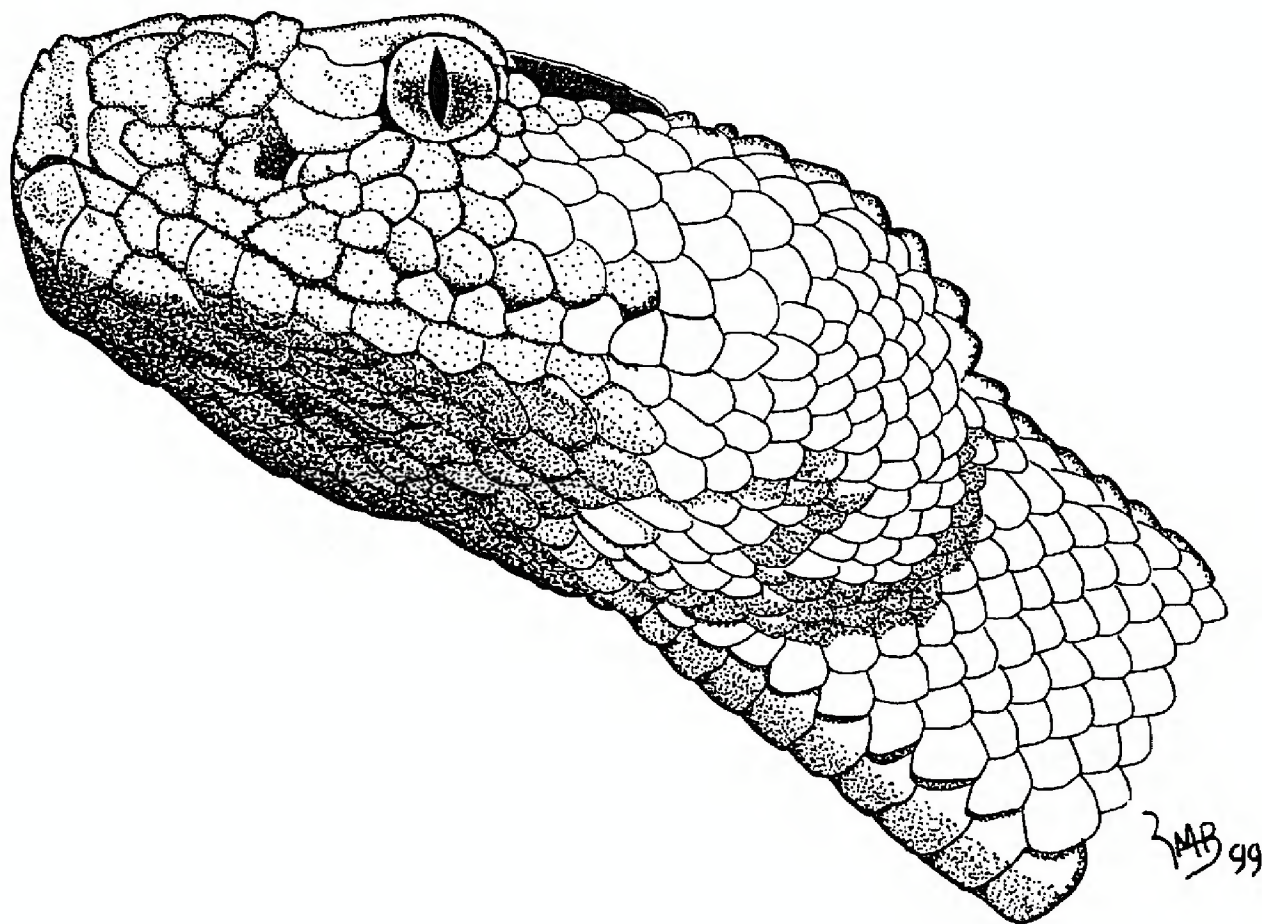

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Notes on Mexican Herpetofauna 9: Herpetofauna of a Fragmented *Juniperus* Forest in the State Natural Protected Area of San Juan y Puentes, Aramberri, Nuevo León, Mexico

David Lazcano, Arnoldo Sánchez-Almazán, Cristina García-de la Peña, Gamaliel Castañeda and
Armando J. Contreras-Balderas
Laboratorio de Herpetología, Facultad de Ciencias Biológicas,
Universidad Autónoma de Nuevo León
San Nicolás de los Garza, Apartado Postal 513
C.P. 66450 Nuevo León
Mexico

(DL) dvlazcano@hotmail.com; (CGP) cristina.g.delapena@gmail.com; (GC) biosg@yahoo.com

Abstract

The herpetological diversity of the *Juniperus* forest of the State Natural Protected Area San Juan y Puentes, Aramberri, Nuevo León, Mexico, was studied, based on field work and literature records. This small protected area mostly consisted of three plant communities: *Juniperus*, *Juniperus*-mezquital halophytic forest, and microphyll desert scrub; all were considered for sampling. The herpetofauna observed in the field consisted of 2 species of amphibians, 6 of lizards and 9 of snakes (7 colubrids and 2 viperids). Together with species reported in the literature a total of 45 species are found here, representing 31.7% of the herpetofauna of the state. The fragmentation of the habitat and the surrounding plant communities show a greater diversity than *Juniperus* forest in other similar areas in North America. This ecosystem is now being heavily fragmented.

Keywords: Herpetofauna, *Juniperus* Forest, Nuevo León, Mexico

Introduction

The San Juan and Puentes State Natural Protected Area is in the municipality of Aramberri in the southwest portion of the state of Nuevo León, Mexico (Figure 1). The original vegetation community was *Juniperus*. The present extent of the forest is 132.36 ha; nevertheless, the protected area is only 21.66 ha. Forty years back this area also included a fossil lake system (Bolson de Sandia = Pluvial Lake Sandia) of underground streams and springs of different sizes and characteristics. What was once a beautiful oasis in the heart of the desert area of Nuevo León is now completely dry, and in need of restoration and conservation. This ecosystem was probably very similar to areas such as La Media Luna in the Mexican state of San Luis Potosí and Cuatro Ciénegas in Coahuila.

This vegetation community dominated by *Juniperus* was very extensive. It was composed of the one-seed juniper, *Juniperus monosperma*, and the alligator juniper, *Juniperus deppeana*, all of great size and exceptionally old. This enclave in the physiographical region known as the *Altiplano Mexicano* is now dying.

In the ancient springs fish could be found. All of these species were considered micro-endemic, due to the fact that each spring possesses its own physical-chemical characteristics. Twenty years back a few still-existing springs harbored a small number of *Cyprinodon* species such as *C. longidorsalis*, *C. inmemoriam*, *C. veronicae* and *C. ceciliae*. These were described and identified, all new to ichthyologists, but are now extinct (Lozano-Vilano and Contreras-Balderas, 1993; Contreras-Balderas and Lozano-Vilano, 1993).

Significantly, local inhabitants of the region talked about the existence in these springs of large fish that were captured for food; they also spoke of the presence of many different water

and land invertebrates, turtles, toads, frogs, snakes and a huge number of migrating aquatic birds.

Considering the extinction of the micro-endemic fish, it is reasonable to assume that the amphibian and reptile groups suffered the same fortune. Unfortunately, the indiscriminate use of the water system for inadequate agriculture methods forced locals to seek underground aquifers. This practice accelerated the drying of the springs and the disappearance of

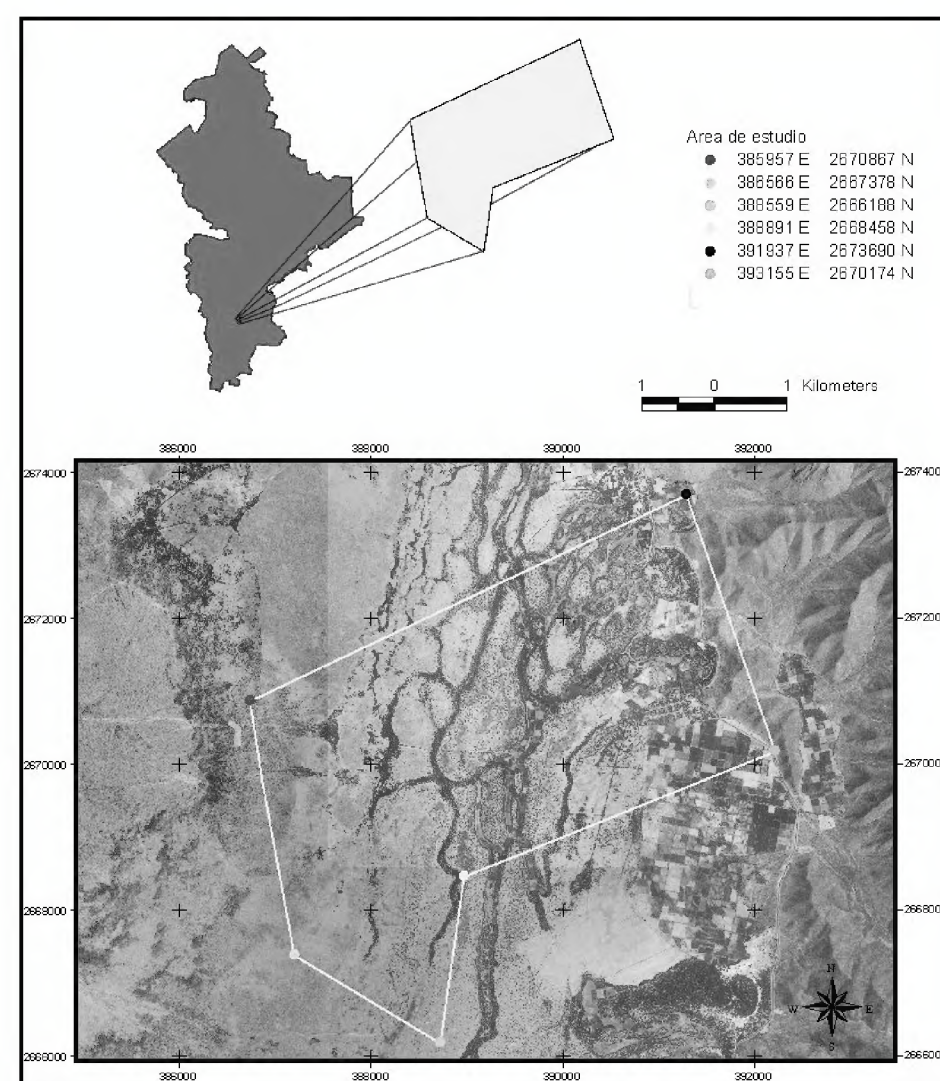


Figure 1. Aerial map of the study area, with a diagram showing its location in the state of Nuevo León, Mexico.

Table 1. Herpetofauna reported for the State Natural Protected Area of San Juan y Puentes, Aramberri, Nuevo León, Mexico, and its status in the Norma Oficial Mexicana (059-2001): A = amenazada (threatened); E = endémica (endemic); Pr = protección especial (special protection); SE = sin estatus (without status). Scientific names follow Crother et al. (2003), Flores-Villela and Canseco-Márquez (2004) and Frost et al. (2006).

Group	Family	Species	Status
Anura	Bufonidae	<i>Anaxyrus cognatus</i> *	SE
		<i>Anaxyrus punctatus</i> *+	
		<i>Chaunus marinus</i> *	SE
		<i>Cranopsis nebulifer</i> *	SE
	Leptodactylidae	<i>Eleutherodactylus augusti augusti</i> *	SE
	Microhylidae	<i>Gastrophryne olivacea</i> *	Pr
		<i>Hypopachus variolosus</i> *	SE
	Scaphiopodidae	<i>Scaphiopus couchii</i> *+	SE
		<i>Spea multiplicata multiplicata</i> *	SE
	Rhinophrynidae	<i>Rhinophrynus dorsalis</i> *	Pr
Squamata: Sauria	Phrynosomatidae	<i>Cophosaurus texanus scitulus</i> *+	A
		<i>Holbrookia approximans</i> +	SE
		<i>Phrynosoma cornutum</i> *	A
		<i>Phrynosoma modestum</i> *	SE
		<i>Sceloporus cyanogenys</i> *	SE
		<i>Sceloporus grammicus disparilis</i> *+	Pr
		<i>Sceloporus marmoratus</i> *	SE
		<i>Sceloporus olivaceus</i> *+	SE
		<i>Sceloporus spinosus spinosus</i> *	SE
	Teiidae	<i>Aspidoscelis gularis gularis</i> *+	SE
		<i>Aspidoscelis tigris</i> *+	SE
Squamata: Serpentes	Colubridae	<i>Arizona elegans elegans</i> *	SE
		<i>Diadophis punctatus regalis</i> *	SE
		<i>Drymarchon melanurus erebennus</i> *	SE
		<i>Heterodon kennerlyi</i> *	Pr
		<i>Hypsiglena torquata jani</i> *	Pr
		<i>Lampropeltis getula splendida</i> *	A
		<i>Lampropeltis mexicana</i> *	A-E
		<i>Leptodeira septentrionalis septentrionalis</i> *	SE
		<i>Masticophis flagellum testaceus</i> *+	A
		<i>Masticophis schotti ruthveni</i> +	
		<i>Pantherophis emoryi</i> *+	SE
		<i>Pituophis deppei jani</i> *+	A-E
		<i>Rhinocheilus lecontei tessellatus</i> *	SE
		<i>Salavadora grahamiae lineata</i> *+	SE
		<i>Storeria hidalgoensis</i> *	SE
		<i>Tantilla atriceps</i> *	A
		<i>Tantilla rubra</i> *+	SE
		<i>Tantilla wilcoxi</i> *+	SE
	Elapidae	<i>Micrurus tener tener</i> *	Pr
	Leptotyphlopidae	<i>Leptotyphlops myopicus</i> *	SE
	Viperidae	<i>Crotalus atrox</i> *+	Pr
		<i>Crotalus molossus nigrescens</i> +	Pr
		<i>Crotalus scutulatus scutulatus</i> *	Pr
Testudines	Kinosternidae	<i>Kinosternon integrum</i> *	SE

* Species reported by Anonymous (2000) + Species observed during this study

Table 2. Species observed and their plant community associations in the State Natural Protected Area San Juan y Puentes, Aramberri, Nuevo León.

Group	Family	Species	<i>Juniperus</i>	<i>Juniperus</i> - Mezquital	Microphyll Desert Scrub
Anura	Bufonidae	<i>Anaxyrus punctatus</i>		X	
	Scaphiopodidae	<i>Scaphiopus couchii</i>	X		
Squamata: Sauria	Phrynosomatidae	<i>Cophosaurus texanus scitulus</i>		X	X
		<i>Holbrookia approximans</i>		X	X
		<i>Sceloporus grammicus disparilis</i>	X		
		<i>Sceloporus olivaceus</i>	X		
	Teiidae	<i>Aspidozelis gularis gularis</i>		X	X
		<i>Aspidozelis tigris</i>		X	X
Squamata: Serpentes	Colubridae	<i>Masticophis flagellum testaceus</i>		X	
		<i>Masticophis schotti ruthveni</i>		X	
		<i>Pantherophis emoryi</i>	X		
		<i>Pituophis deppei jani</i>	X		
		<i>Salvadora grahamiae lineata</i>	X		
		<i>Tantilla rubra</i>	X	X	
	Viperidae	<i>Tantilla wilcoxi</i>	X	X	
		<i>Crotalus atrox</i>	X		X
		<i>Crotalus molossus nigrescens</i>	X		X

all their residents, many of which were never known to biologists, causing great damage to the scientific patrimony of the state and country.

To add to these problems, immoderate logging of the *Juniperus* has strongly fragmented the forest. In recent studies of the vertebrate fauna, we have encountered populations that suggest the possible presence of undescribed subspecies that have adapted to the area for millions of years. These populations are seriously threatened with extinction as the forest is little by little consumed or dying because of changing environmental conditions (soil moisture content).

It is important to call the attention of all levels of authority, associations, and organizations to supporting research projects that will increase our knowledge of the biological diversity that has survived the impact of anthropogenic development, and if possible establish a much larger protected area as a biological corridor that will guarantee the survival of these populations throughout their range. The local human population is less than a thousand inhabitants. Strange to say, their agriculture and small grazing area still cannot sustain them. Yet they have destroyed an ecosystem of incalculable biological richness.

Canseco-Márquez et al. (2004), analyzed the distribution of the herpetofauna throughout the Sierra Madre Oriental complex and reported 207 species present for this mountain chain. Of these, 10.6% were found in the *Juniperus* forest and tropical deciduous forest. In particular for the *Juniperus* forest in Nuevo León, there is little information on the faunistic communities. Such information is crucial and important to determine, as this can be an important factor that can contribute to or support criteria for the future conservation of this ecosystem.

Methodology

The area is located between 1560 and 1600 m elev. (Figure 1); it consists of a large plain, found along the Sierra Madre

Oriental. The vegetation communities reported for this physiographic province that also belong to the natural protected area are the following: *Juniperus*-mezquital forest, *Juniperus*-mezquital halophytic forest, submontane scrub forest, rosetophilic desert scrub, scrub-pine, microphyll desert scrub, halophytic vegetation and halophytic grassland. Of these plant communities only *Juniperus*, *Juniperus*-mezquital halophilic and microphyll desert scrub were herpetologically sampled. The dominant *Juniperus* forest is composed mainly of one-seed juniper (*Juniperus monosperma* var. *gracilis*) and alligator juniper (*Juniperus deppeana*), mesquite (*Prosopis glandulosa*), tree cholla (*Opuntia imbricata*), desert Christmas cactus (*Cylindropuntia leptocaulis*), grama (*Bouteloua chasei*, *B. barbata*), tubercled saltbush (*Atriplex acanthocarpa*), Mexican seepweed (*Suaeda mexicana*), slimflower muhly (*Muhlenbergia monticola*), and garbancillo (*Peganum mexicanum*). Surrounding this *Juniperus* forest, we encounter a *Juniperus*-mezquital halophilic forest community; this community is composed of mesquite, tree cholla and Berlandier's wolfberry (*Lycium berlandieri*). The microphyll desert scrub is dominated by creosote bush (*Larrea tridentata*), Texas goatbush (*Castela texana*), tree yucca (*Yucca filifera*) and crown of thorns (*Koeberlinia spinosa*).

Sampling areas were established according to the natural protected area program (Anonymous, 2000) and its management plan (AMAVISI, 2002). Because of the small size of the protected area, only *Juniperus*, *Juniperus*-mezquital halophilic forest, and microphyll desert scrub were considered for sampling. A total of ten field trips were conducted (one per month) with a duration of 3 days each. In each of the three plant communities extensive searching was done. Collecting and observations took place during daylight hours (0900–1700 h) under various weather conditions. Pitfall traps were impractical due the presence of a very compact soil that made it almost impossible to dig to introduce the plastic buckets. All

amphibians and reptiles observed were either identified using Conant and Collins (1998), Smith and Taylor (1966) and accounts from the Catalogue of American Amphibians and Reptiles published by the Society for the Study of Amphibians and Reptiles, or were documented by a photograph. A few specimens were collected as vouchers and deposited in the herpetological collection of the Facultad de Ciencias Biológicas of Universidad Autónoma de Nuevo León.

Results and Discussion

Based on Contreras-Arquieta and Lazcano (1995) and Lazcano and Contreras-Arquieta (1995), Nuevo León harbors 142 species of amphibians and reptiles, from which AMAVISI (2002) reported 49 species for the State Natural Protected Area of San Juan y Puentes. In this study we observed 2 amphibians, 6 lizards and 9 snakes (7 colubrids and 2 viperines) of which *Holbrookia approximans* and *Crotalus molossus nigrescens* are new reports for the area. Between our field work and an intensive literature search the total number of species for the area now stands at 45 species (Table 1). We do not doubt that this list could contain more species than we are reporting here. More searching time will be needed and in all weather conditions to obtain an accurate list of the herpetological population here. Eddleman et al. (1994) mention that the amphibian and reptile fauna from a *Juniperus* forest in the northeastern United States comprised 15 species. Miller (2001) pointed out the herpetological diversity in a *Juniperus* forest in the western United States was a little higher — 15 species of reptiles and 2 of amphibians. In this study we observed 15 reptile species and 2 amphibian species in the *Juniperus* forest of Aramberri. Adding those cited in Anonymous (2000) we have 35 species of reptiles and 10 of amphibians, making the total 45 species. Clearly, this diversity exceeds that of the areas studied by Miller (2001) and Eddleman (1994).

We should not forget that this forest is greatly fragmented and ecologically disturbed. The high number of species could be an artifact of its fragmentation, and subsequent recolonization by species that need open areas for thermoregulation. A high degree of fragmentation and ecologically disturbed habitat could tend to increase species richness and abundances of those species that require such areas. The following authors have written extensively about fragmentation and its effects on various animal communities: Addicott, 1978; Harrison et al., 1988; Henderson et al., 1985; Jones, 1988; Merriam and Wegner, 1992; Norton et al., 1995; Paine, 1988; Turner and Gardner, 1991; Villard et al., 1992; Wegner and Merriam, 1990; With and Crist, 1995.

Within Nuevo León's State Natural Protected Areas, there are areas of similar or even higher diversity, where the domi-

nant vegetation is pine-oak. Such an area is the Parque Ecológico Chipinque in Garza García, Nuevo León, where we registered a diversity of 38 reptile species and 7 amphibian species (Banda-Leal, 2002; Lazcano et al., 2006). Another example is an area known as La Trinidad, with a microphyll desert scrub plant community, home to approximately 39 reptiles and 5 amphibians. Sierra San Antonio Peña Nevada, with various plant communities, harbors 32 species of reptiles and amphibians (Lazcano et al., 2004). Finally it is important to mention that within this area of the *Juniperus* forest of Aramberri there are seven species considered threatened, two endangered and nine in special protection. That it is why it is very important to urge conservation of the area to benefit the herpetofauna and other vertebrate groups.

It is essential to mention that even though we didn't determine or measure the extent of the *Juniperus* forest fragmentation, if this continues at its present rate, the forest will give way to drier plant communities, with unknown consequences to the present herpetofauna, or to open spaces favoring the more heliothermic species (most of the phrynosomatid species) (AMAVISI, 2002).

Yet another severe problem has been plaguing the area with increasing frequency. When the springs were functional their water cycle permitted the sedimentation of organic material. As they dried, these sediments became prone to combustion and have been burning since, suffocating the remaining root systems of the few *Juniperus* trees that are still alive.

Table 2 shows the species found and their plant associations. Most of the lizard species require open areas for diurnal activities, except for species like *Sceloporus grammicus disparilis* and *Sceloporus olivaceus* that were always associated with *Juniperus* areas. Snakes were always found near *Juniperus* or cholla tree (*Opuntia imbricata*) refuges. Because the lizard community here is very active during sunny days in this fragmented *Juniperus* forest a parallel study was conducted, where we determined the thermal and spatial niche overlap. Similar studies on other vertebrate groups took place during the conduct of this study; Valero (2004) worked with mammals and Ballesteros (2004) with birds.

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A Note on Cannibalism in the Common Garter Snake, *Thamnophis sirtalis sirtalis*

Brian S. Gray
1217 Clifton Drive
Erie, PA 16505-5215

Mitchell (1986) provided a thorough review of cannibalism in reptiles, and cited four instances in *Thamnophis sirtalis*. Cannibalism in this species has been noted both in the field and in captivity (Schwartz, 1985; Mitchell, 1986). Here I report on an instance of attempted cannibalism in captive *T. sirtalis*.

On 19 January 2001 at 0845 h, I discovered one of my male *Thamnophis sirtalis* (485 mm total length [TL]) attempting to consume its larger (550 mm TL) sibling, head first (Figure 1). The two snakes involved had been cage mates since their birth in 1997 to a female that had been collected



Figure 1. Male *Thamnophis s. sirtalis* attempting to consume its larger sibling.

from a hazardous waste area, and subsequently produced both merolepid and normal individuals (Gray et al., 2001). The two snakes were maintained together in a 10-gallon aquarium with pine shavings as a substrate; a water bowl and an under-tank heater were also provided.

At the moment of discovery, the smaller snake had swallowed about half of the larger individual. My initial response was to try and save the larger snake; however, I soon realized that the individual was dead.

At 0900 h, approximately 15 minutes after the initial discovery, the smaller snake disgorged the larger individual, which had been two-thirds ingested. At that time I removed the dead snake from the enclosure, and placed it in 70% isopropyl alcohol, and later sent to Hobart Smith. At 0910 h the smaller individual was observed tongue-flicking the area where it had disgorged its sibling. This species may accidentally cannibalize cage mates during feeding episodes, when two individuals attempt to consume the same food item. The present observation is significant because it did not occur during a feeding episode. The last feeding, consisting of night crawlers (*Lumbricus terrestris*), had been six days prior. Therefore, it is most likely that this attempted act of cannibalism resulted from active pursuit/predation as described by Schwartz (1985).

Based on this observation, as well as those cited in Mitchell (1986) it may be wise to keep individuals of this species housed separately, except during breeding attempts.

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Note on the Testicular Cycle of Godman's Earth Snake, *Geophis godmani* (Serpentes: Colubridae) from Costa Rica

Stephen R. Goldberg
Department of Biology
Whittier College
Whittier, CA 90608

Abstract

Histological examination of testes from *Geophis godmani* revealed that males undergo spermiogenesis during all months examined (December–January, March, April, June, September). Tubules of the vasa deferentia contained sperm indicating males were capable of insemination throughout this period. Six other species of snakes from Costa Rica also exhibited spermiogenesis in all months examined. Subsequent investigations of other species are needed to ascertain the frequency of prolonged periods of spermiogenesis in the testicular cycles of Costa Rican snakes.

Godman's earth snake, *Geophis godmani* is known from the cordilleras of Costa Rica and western Panama (1,600–2,100 m) and the premontane zone on the Meseta Central Occidental of Costa Rica (1,000–1,100 m) (Savage, 2002). It is terrestrial and fossorial (Solórzano, 2004). Information on egg clutches and appearance of neonates is in Solórzano (2004). This report presents information on the testicular cycle based on histological analyses of testes from museum specimens.

Methods

Six *G. godmani* males (mean snout-vent length = 259 mm $\pm$ 22 SD, range: 238–296 mm) from Costa Rica were examined from the herpetology collection of the Natural History Museum of Los Angeles County, LACM, Los Angeles, California. Specimens were collected (by province): December 1991–January 1992, Puntarenas (LACM 151265); March 1959, Cartago (LACM 151266); April 1967, Heredia (LACM 151270); June 1964, Alajuela (LACM 151267); June 1990, Puntarenas (LACM 151269); September 1966, Alajuela (LACM 151264). The left testis and a portion of the vas deferens were removed for histological examination. Tissues were embedded in paraffin and histological sections were cut at 5 μ m. Sections were mounted on glass slides and were stained with Harris' hematoxylin followed by eosin counterstain. Slides were examined to determine the stage of the testicular cycle.

The testes of all males were undergoing spermiogenesis. The lumina of the seminiferous tubules were lined by spermatozo-

zoa or several rows of metamorphosing spermatids. Tubules of the vasa deferentia contained sperm. Even though samples were not available from all months, the presence of males undergoing spermiogenesis from most of the year: December–January, March, April, June, September, suggests an extended period of spermiogenesis and that male *G. godmani* are capable of insemination throughout the year. According to Fitch (1982) there is year-round breeding in snakes from some aseasonal equatorial regions. Other snakes from Costa Rica were similarly undergoing spermiogenesis in all months examined: *Erythrolamprus bizona*, *E. mimus* (Goldberg, 2004b); *Drymobius margaritiferus* (Goldberg, 2003b); *Ninia maculata* (Goldberg, 2004a); *Dendrophidion vinitor* (Goldberg, 2003a); *Micrurus nigrocinctus* (Goldberg, 2004c). This cycle with extended spermiogenesis differs from the testicular cycle exhibited by many snakes of the North Temperate Zone in which sperm formation occurs during autumn and testes are in regression or recrudescence in spring (see for example, Goldberg, 2000, 2004d). Subsequent histological examinations of testes from additional species of Costa Rican snakes are needed to ascertain the frequency of testicular cycles with extended periods of spermiogenesis.

Acknowledgments

I thank Christine Thacker (LACM) for permission to examine *G. godmani*. Specimens are part of the CRE collection donated to LACM by Jay M. Savage.

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HerPET-POURRI

by Ellin Beltz

What do you get for a column that has everything?

To celebrate this column's 21st birthday, I've made a list of some of the my most, best and favorite of 2006:

Most careful reader/writers: A tie between J. N. Stuart, Alan Rigerman and Jim Harding who always point out misidentified snakes and errors in the stories.

Best frog clippings: Marybeth Trilling

Worst frog puns: Marybeth Trilling

Favorite herp society besides CHS: New Zealand Herpetological Society for sending me their lovely bulletin *Moko* each and every issue for the past many years. I really appreciate hearing what happens in other people's groups as well as the news stories they carry that I see no other way.

Best turtle clippings: Philip Drajeske

Best infrequent clippings: Rob Streit, Donna Moe, Garrett Kazmierski, John Christianson, Kathryn Bricker, Paula Shevick

Best Big Island clipper: Paul Breese

Best Big Envelopes full of goodies: Alan Rigerman

Most humble contributor: Marty Marcus

Best hostess: Ann Waldo

Best "Frogs" audience: The Pacific Northwest Herpetological Society for a series of insightful questions and a fabulous crowd!

Most interesting ecology news in 2006: The rediscovery of the ivory-billed woodpecker, formerly considered 99 and 44/100's percent purely extinct!

Most patient editor: Michael A. Dloogatch for putting up with my shenanigans, boredom and never-ending ability to procrastinate. Maybe next year, I'll make a resolution to stop doing that!

Most patient new contributor: William A. Black, who waited almost half a year for his first clipping to see print!

Best keeper of the flame: Ray Novotny

Most clippings (paper): Measured by weight, volume or number of stories, it's a tie between Ms. G. E. Chow of Hawai'i, Alan Rigerman and Mr. Bill Burnett of Arkansas.

Most clippings (electronic): He with his fingers on the pulsing heart of the Internet, Wes von Papineau whom I will finally get to meet at the IHS in Toronto, Canada, in June!

Second-most clippings (electronic): Super-reader Ms. G. E. Chow

Most interesting mail: Hands down, this goes to Bill Burnett for brightly colored envelopes, interesting stamps, additional clippings, major amounts of tape and in 2006, a new innovation: recycled cardboard with tiny herp stories taped to neon-brights with my address on the back. He also gets his Aunt and Mom to contribute from their respective England and Florida making him a one-man, three locality wonder-clipper!

Most interesting thought: There's about 540 clipping virgins who might be reading this column right now. Can you imagine if 540 clippings ended up in our tiny post office all at the same time? Send paper clippings about herpetofauna (with your name or some clue on each piece) to: Ellin Beltz, POB 1125, Ferndale, CA 95536. Electronic text versions to ebeltz@ebeltz.net

Mailbag

"If the pythons [introduced into the Everglades] are really eating a lot more raccoons than Key Largo Wood Rats, then maybe they are not so bad!" *Jim Harding*

Regarding a photo of an actor grimacing in fear in a promo for last summer's fizzling thriller, *Ssssnakes on a Plane*, contributor *Marybeth Trilling* wrote: "Ooh, that deadly, horrid, poi-

sonous Florida kingsnake. Eeek!”

Well your comments in the latest *CHS Bulletin* are certainly appreciated, even if they are excessively laudatory. We hope your surgery has produced the desired results. Had we known ahead of your arrival that you were going to be so “physically challenged,” we would have had a motorized wheelchair waiting for you! . . . Take care of yourself!” *Marty Marcus and Ann Waldo*

I’m exhibiting all of my frogs at ReptileFest ’07 . . . although they really should call it “AmphibiFest” with 85 hoppy amphibians and counting! *Marybeth Trilling*

Diet for a Large Python

According to the University of Alabama and the Florida Everglades National Park, to reach full size, an average python might consume the following in five years:

72 deer mice
30 cotton rats
15 wrens
10 squirrels
8 ibises
6 little blue herons
5 grebes
4 five-foot alligators
2 or 3 opossums (yes!)

and a raccoon or maybe two or three. [*Miami Herald*, September 3, 2006, from Alan Rigerman] Why does that list feel like the umpteen days of Christmas?

Was that “Ribbet” or “Ribbed”?

Researchers do strange things in pursuit of knowledge. In 2000, an “animal communication researcher . . . professor at the University of California, Los Angeles, and his colleagues at the University of Vienna glued a condom to the jaw of a robotic frog equipped with an air pump and speaker. It worked: The condom makes such a believable vocal sac that the robot, despite its immobility, can incite a real frog to spar. . . .” Two robot frogs were destroyed during the frog sparring matches which lasted up to 15 minutes, according to the researcher whose latest effort is building a robotic frog to attempt to communicate with *Staurois natator*, the black-spotted rock frog of Brunei. Reportedly fast flowing streams prevent their calling in much the same way as our local tailed frogs up here in northern California do not call for they would not be heard over the water noise. But then again, it is much more exciting to go to Brunei than to northern California for research projects — a tragedy of the commons repeated every day in North American academia. [*The Scientist*, December 2006, from Ms. G. E. Chow]

Wry British Humor

“She liked her own space. And her own company. So when Camilla the chameleon was introduced to Charles, a potential partner, they didn’t get on. Then, for a magical 48 hours they did. The result means that Camilla won’t be on her own again for some time. She is now a proud mother of 55. [*U.K. Daily Mail*, August 11, 2006, from Bill Burnett’s Aunt Peggy]

Food for Thought

USA Today reports that “Booming demand in the USA for exotic animals captured in the wild and brought into the country with little or no screening for disease, leaves Americans vulnerable to a virulent outbreak that could rival a terrorist act. . . . More than 650 million critters — from kangaroos and kinkajous to iguanas — were imported legally into the USA in the past three years. . . . Countless more pets along with animal parts and meats are smuggled across the borders as part of a \$10-billion-a-year black market that’s second only to illegal drugs. . . . The *Journal of Internal Medicine* estimates that 50 million people worldwide since 2000 have been infected with zoonotic diseases — animal-borne diseases that jump to humans — and as many as 78,000 have died.” [November 28, 2006, from Bill Burnett]

Aussies loathe Toads

“Research from Sydney University’s Shine Institute suggests the long-term impact of cane toads (*Bufo marinus*) on wildlife is less destructive than first thought,” according to Australia’s *ABC Northern Territory News* [November 28, 2006] which continues, “The arrival of the toad in the Northern Territory has caused the populations of death adders, goannas and quolls to be drastically reduced. . . [but] all of the species under threat are evolving to cope with the toad’s deadly poison.” The researcher noted that “a campaign to stop the cane toad’s march across the country is ineffective,” dramatically adding, “Trapping toads is a little bit like standing out here in the floodplain and swatting at mosquitos,” he said. The *Australian Broadcasting Company News* continued the story on December 2, 2006, with an interview where the researcher said that “the size of the toad front is already too large to combat and that the pests breed more when isolated. ‘They have huge numbers of eggs and they survive better when there’s fewer toads around,’ he said. ‘When you reduce the numbers of toads you will tend to make it easier for them to replace themselves.’”

Ozzies hate Mozzies

A recent series of experiments at Sydney University, Australia, have shown that the “presence of [cane] toad tadpoles reduced the survival rates of mosquito larvae,” and therefore would also reduce the likelihood of mosquito-borne diseases in humans and stock animals. [*The Courier-Mail*, November 28, 2006, from Aiken Reed, II] The question now is “Do Aussies hate mozzies more or less than Ozzies loathe toads?”

Red, Yellow or Green and Why

“The mystery surrounding a snake that undergoes a spectacular color change has been solved by Australian National University ecologists who have found that the skin of the green python — which begins life either bright yellow or red — transforms to blend into a new habitat as the snake gets older. . . . The researchers radio-tracked a large number of juvenile and adult pythons and analyzed their colors using advanced spectrophotometry. To their surprise, they found that the brightly colored youngsters live in a completely different habitat to the older snakes. The juveniles remained outside the rain-forest where they hunted small prey such as skinks and cockroaches, whereas the adults moved into the rain-forest canopy to hunt

rodents and birds. The juvenile yellow and red color allows them to blend in remarkably well with the multicolored leaves and grass at the forest edge. The adult green allows them to hide from their predators as they hunt for birds and rodents in the canopy. It takes a year before the young ones are large enough to catch bigger prey like birds. They then shed their skins, change to green, and move inside the rain-forest to try their luck off the ground.” [PhysOrg.com, December 6, 2006, from Ms. G. E. Chow]

A tough year for snake handlers

- Depending on where you met Ali Khan Samsuddin — in print, on television, the Guinness Book of World Records, or in person — his habit of living, working, petting and challenging venomous snakes in return for world-wide publicity tested the waters of fate and destiny. Time ran out for the 48-year-old in early December after “he was bitten on the left hand by a cobra while performing in Kuala Lumpur,” according to *The Scotsman* [December 4, 2006]. His son, a fifth-generation snake handler, resolutely said the show would go on and added, “He had been bitten by snakes many times before, including three times by king cobras . . . so we didn’t think anything would happen.”
- A 23-year-old southern Indiana man had ten to 12 years of snake handling experience when he received a 14-foot pet python as a gift about five months before it asphyxiated him by squeezing him around the neck and chest area. The young man had gone out to his snake shed after telling his family that he had to give the snake a medical treatment, but never came back. The snake was returned to the family; its final disposition is undisclosed. [Corbin, Kentucky, *Times-Tribune*, September 6, 2006, from first time contributor William A. Black]
- The *Khaleej Times* reports that “snake charmer Khum Chaibuddee plants a kiss on a king cobra at Ripley’s Believe It or Not Museum in Pattaya, Thailand. . . . The Thai snake charmer kissed 19 highly poisonous king cobras in an attempt to set a world record Saturday.” [October 7, 2006, from Paula R. Shevick and the *Honolulu Advertiser*, October 8, 2006, from Ms. G. E. Chow]
- Police decided not to use Kentucky Revised Statute XL, Chapter 437, which calls for fines of \$50 to \$100 for anyone who handles snakes as part of a religious service or gathering after a 48-year-old woman and member of a snake-handling church died from a snakebite during a church service. “Under the circumstances, they have been through enough,” said a police spokesman. [Corbin, Kentucky *Times-Tribune*, November 8, 2006 — a second contribution from new contributor William A. Black]
- Chuck Shepherd writes in his never-ending and wonderful column *News of the Weird*: “Salt Lake City [UT] high school student . . . was bitten by a rattlesnake . . . even though a friend warned him to avoid it. Said [the student], ‘Even though she told me not to, I picked it up anyway. I’m not too bright that way.’” [Tacoma News Tribune, June 3, 2006, from Marty Marcus]
- “A Uniontown, Pennsylvania, police officer said he used a

Taser to subdue a python that had bitten [a resident and] wrapped itself around the 47-year-old man’s arm and ‘was eating his hand.’” [Little Rock, Arkansas, *Democrat-Gazette*, December 6, 2006, from Bill Burnett]

Five thousand spared

“Acting on a tip-off, a six-member [Malaysian] Customs preventive team raided a belacan (shrimp paste) factory near the Sungai Kapal beach in Kampung Sungai Kepal, Penggerang. . . . On checking, the officers found 50 crates containing 444 snakes, mainly cobras, 191 boxes with 2,488 lizards, commonly known as Bengal monitor lizard (*Varanus bengalensis*), and another 131 crates with 1,889 tortoises. . . . Another 11 crates of tortoises were found stacked under some trees near the beach. ‘We believe these animals were meant for the restaurants of a neighboring country,’ said [an official].” [New Strait Times, December 5, 2006, from Ms. G. E. Chow]

Naja evicta, nov. sp.

Two adjoining Toronto landlords are hissing with frustration after a snake slithered loose from one building and was seen in the other on September 26, 2006. At first they didn’t realize it was venomous, but after it flipped out its hood and proved it was a full-size venomous Egyptian cobra, the search became an evacuation and the searchers became experts from the Toronto Zoo instead of the landlord and the tenants. Officials cleared out all the tenants, who are no longer paying rent while the landlords still owe taxes, fees and are paying heat and electric to prevent damage to the buildings. Plus one building is pretty ripped up after folks searched for the snake in every nook and cranny. The five tenants of the building are still waiting to find out if they can return home. The person who was keeping the snake in captivity was charged with three counts: one for each of his venomous Egyptian cobras and one for his gaboon viper. The other two snakes were taken by Animal Services. [Toronto Star, November 28, 2006, from Wes von Papineau]

A pair of real winners

Police from Kalihi and Pearl City, Hawai’i discovered more than they expected when they rounded up two youths in connection with some pretty heavy charges in a six or more month crime spree on O’ahu — a 3½-foot ball python! Snakeless Hawai’i has some pretty hefty punishments for folks who ignore the periodic amnesties. Willfully maintaining serpents in captivity is a Class C felony in the Islands, punishable by fines from \$50,000 to \$200,000 with or without the maximum three-year prison sentence. [Honolulu Advertiser, August 8, 2006, from Ms. G. E. Chow]

Tiny Turtles Take over World

The saga of the tiny, “dime-store” turtles continues. Regular readers as old as I am recall baby red-eared sliders with plastic pools and palm trees as an annual feature of five and ten cent stores in the late 1950s and early 1960s. Turtle breeders on the Florida-Louisiana border had captured dozens of *Trachemys scripta elegans* and were collecting the eggs and selling the hatchlings, which — conveniently — do not need to eat for a while after hatching. The baby turtles were quite unfortunately loaded with *Salmonella* bacteria, a result of the filthy water and

the chicken entrails being fed to their parents. In May 1975, the U.S. Food and Drug Administration stepped in after a congressman's child was sickened and sales of all turtles with a shell less than four inches were completely banned. Turtle farmers cleaned up their act and began shipping millions overseas instead until European nations banned the imported baby turtles in the late 1990s. Disease wasn't the problem; instead the tiny red-ears grow to nasty adults which apparently justified their release in native waterways where big, overprivileged red-ears rapidly outcompeted native turtles. The International Union for the Conservation of Nature has classified red-ears among the world's 100 worst invasive species. But the story is not over for this super-tramp. In the late 1990s, China began placing huge orders for turtles. Even as the prices climbed to \$1.20 per hatchling, the Chinese bought eight to twelve million hatchlings per year, every year for ten years until their approximately 70-million adults began breeding for themselves. Then they bought none and are poised to sell millions—or billions—on the world market and the Louisiana breeders are hard put to compete. One U.S. breeder was quoted, "They screwed us to the wall, but you have no one to blame but yourself. The price got too high . . . [and now you've got] 12 million hatchlings sitting on people's shelves in Louisiana. . . . [Turtle farmers] are in a dead panic. People have their livelihoods hanging on these things." Meanwhile, informal turtle surveys show that red-eared sliders have displaced native turtles from New York's Central Park to the ponds in the redwood forests of far northern California. Like us, they thrive wherever they end up and—like us—they brook little competition. [Daytona Beach

News, August 27, 2006, from Alan Rigerman]

The natives are restless

Police in usually quiet Plymouth County, Indiana, were shaken when emergency services handled two separate snake incidents in the same day. First an 11-year-old was bitten by a non-venomous serpent, then a man called to say he'd cornered a rattlesnake on his property. It was later determined to be a harmless eastern milksnake. [South Bend Tribune, July 22, 2006, from Garrett Kazmierski]

Chameleonic Snake

A single adult 17-inch-long snake captured in the Kapuas River drainage system in Indonesia was reddish-brown when placed in a dark bucket, a few minutes later, it was almost white - amazing the researcher who collected it. The World Wildlife Fund pointed out that 361 animal and plant species have been discovered in on the Indonesian island of Borneo, showing how incredible its biodiversity is, or was; only half of its original forest cover remains. [Little Rock, Arkansas, Democrat-Gazette, June 22, 2006, from Bill Burnett and Tacoma News-Tribune, July 3, 2006, from Marty Marcus] Scientists report that 52 new species were found on Borneo in 2006 and announce that one of them was a treefrog with bright green eyes. [Little Rock, Arkansas Democrat-Gazette, December 19, 2006, from Bill Burnett]

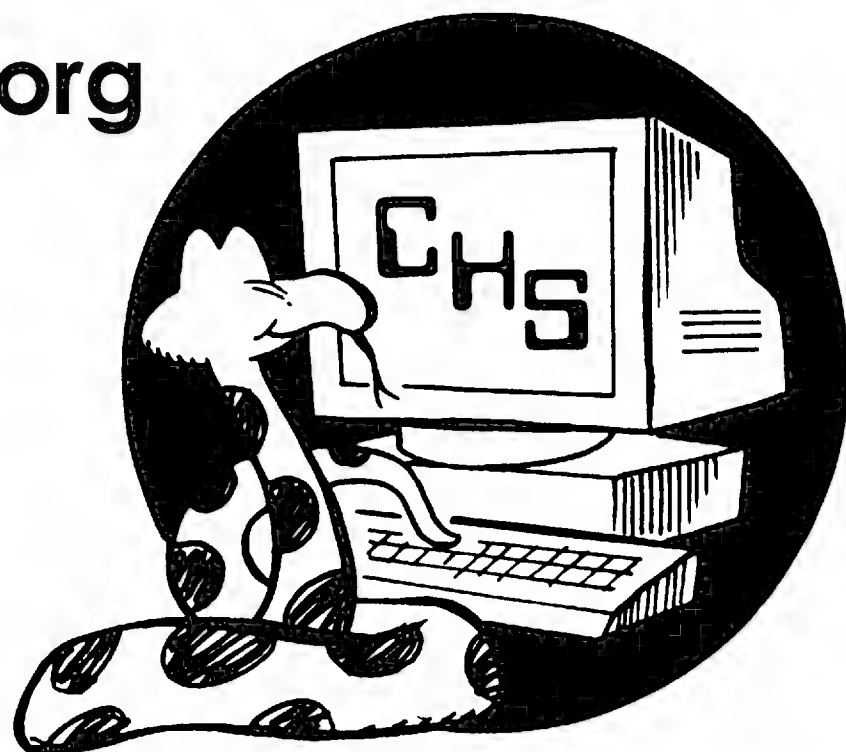
Thanks to everyone who contributed this month! Don't forget to help me effectualize my dream of 540 clippings.

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Herpetology 2007

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

PARTHENOGENESIS IN KOMODO DRAGONS

P. C. Watts et al. [2006, *Nature* 444:1021-1022] note that parthenogenesis, the production of offspring without fertilization by a male, is rare in vertebrate species, which usually reproduce after fusion of male and female gametes. The authors used genetic fingerprinting to identify parthenogenetic offspring produced by two female Komodo dragons (*Varanus komodoensis*) that had been kept at separate institutions and isolated from males; one of these females subsequently produced additional offspring sexually. This reproductive plasticity indicates that female Komodo dragons may switch between asexual and sexual reproduction, depending on the availability of a mate—a finding that has implications for the breeding of this threatened species in captivity. Most zoos keep only females, with males being moved between zoos for mating, but perhaps they should be kept together to avoid triggering parthenogenesis and thereby decreasing genetic diversity.

SOIL WATER CONTENT AND HATCHING SIZE

M. S. Finkler [2006, *Copeia* 2006(4):769-777] reports that most studies that have investigated the influence of hydric conditions during incubation on the size and quality of hatchling reptiles have used either vermiculite or sand as the incubation medium, and the applicability of data derived from eggs using one media type or the other to natural populations has had considerable debate. However, few studies have used soil from actual nesting areas as the incubation medium. This study tested the influence of variation in substrate water content during incubation on the size of hatchling snapping turtles, *Chelydra serpentina*, from southeastern Michigan using soil collected from actual snapping turtle nests. Eggs from six clutches were fully buried in sterilized soil that had been dried and then reconstituted to six different levels of hydration (3, 5, 7, 9, 11, and 13% gravimetric water content). Eggs in the driest soil (3%) had a slight net loss of mass over the course of incubation, whereas eggs in the wetter soils gained mass to varying degrees correlating positively with soil water content. Hatchling mass was significantly lower in the two driest soils than in the wetter soils. Carapace length was significantly shorter for hatchlings from the driest soil (3%) than for those from soils with 7% and 9% water contents, and significantly shorter for hatchlings from the wettest soil (13%) than for those from the 7, 9, and 11% water contents. Soil water contents measured adjacent to a single nest site over three consecutive field seasons ranged from 1.1 to 8.2%, with median water contents 5% in all three seasons. These findings support the hypothesis that normal variation in soil hydration can influence the size of hatchlings emerging from natural nests. The degree to which hatchling size varies with normal variation in soil water content, however, may have only minor impact on hatchling survivorship in light of other factors that could potentially influence hatchling survival in this species.

SOUTHERNMOST GECKO—GROWTH AND AGE

C. Piantoni et al. [2006, *Amphibia-Reptilia* 27(3):393-400] note that *Homonota darwini* is the southernmost distributed gekkonid species of the world, as it can be found in South America from 35° to 52°S. Age and growth of *H. darwini* were studied using skeletochronology on diaphyseal femoral cross-sections. Individual ages were assessed after estimating the resorbed rings in relation to snout-vent length (SVL). SVL and age showed a sigmoidal relationship and growth rates showed a shift from premature growth to mature breeding when sexual maturity is achieved. The model indicates that sexual maturity in *H. darwini* is reached at five years in females and nine in males. Species longevity is estimated to be 17 years, which corresponds to a k-selected trait of late maturity and long life expectancy. Once sexual maturity is reached, size is a poor indicator of age in this species. These results are discussed in terms of behavioral and physiological adaptations of this species to the strong environmental pressures of the Patagonian steppe. These results also support the hypothesis that daytime burrow temperatures, which are similar to body temperatures recorded in diurnal lizard species, meet the physiological growth requirements of nocturnal lizard species.

MASSASAUGA HABITAT SELECTION

J. A. Moore and J. C. Gillingham [2006, *Copeia* 2006(4):742-751], using radio telemetry and geographic information systems (GIS), investigated movement patterns, home ranges, and habitat selection by eastern massasauga rattlesnakes, *Sistrurus c. catenatus*, from 2003 to 2004 at an 815-ha fen preserve located in southeastern Michigan. The authors tested habitat selection on three different scales: microhabitat (by modeling differences in climatic and structural variables between snake-selected sites and random sites, using logistic regression); macrohabitat; and landscape-scale (both by compositional analysis comparing proportions of habitat types used versus proportions available). One hundred percent minimum convex polygon home ranges averaged 1.3 ha, and daily movement rates averaged 6.9 m/d. Models predicted that snakes exhibit complex microhabitat selection based on multiple climatic and structural variables including soil temperatures, relative humidity, canopy cover, litter depth, and various vegetation parameters. Snakes actively establish home ranges in the broader landscape by selecting areas with disproportionate quantities of emergent wetland, scrub/shrub wetland, and lowland hardwood habitats. Upland hardwood and all human-altered landscapes were rarely used, even though they were available. This has potentially serious conservation implications. Encroachment of these types of landscapes into areas of suitable habitat could severely restrict movement and home range sizes of these snakes. Potential disruption of movement patterns and gene flow of remaining populations could be extremely detrimental to this species.

ECOLOGY OF THE JACARERANA LIZARD

M. Martins [2006, Herpetological Journal 16(2):171-177] notes that the semi-aquatic teiid lizard *Crocodilurus amazonicus* (local name jacarerana) inhabits lakes and rivers throughout Amazonia. Although it is a common species in many areas, very little information is available on its biology. Information is provided on the ecology of *C. amazonicus* in areas of flooded forests in central Amazonia, Brazil. Most field observations were made at two *igapó* (blackwater swamp) forests in the Negro River basin, from 1992 to 1995. Lizards were found accidentally or during time-constrained searches by boat or on foot. More than 100 individuals were observed in both areas. Lizards were either swimming in shallow waters or exposed on the ground or on low vegetation. During low water, when large expanses of shoreline became exposed, *C. amazonicus* foraged and basked on these margins. When the water began to rise and several ponds were formed in the *igapó* forests, the lizards moved into the flooded forest. They were much easier to find during low water. The jacarerana feeds on several prey types, but eats more crustaceans and other aquatic animals than terrestrial teiids. The author found 85 prey items in 26 stomachs. Arthropods (insects, shrimps, crabs and spiders) comprised about two-thirds of total prey volume and vertebrates (fish and frogs, including tadpoles) about one-third. Because most prey were aquatic, *C. amazonicus* probably forages mainly in the water. The jacarerana may be the only Neotropical lizard that feeds frequently on fish (23% of total prey volume) and crabs (16%). The occurrence of *C. amazonicus* in many protected areas in Brazil and adjacent countries may offset population declines associated with development in the future.

CAIMAN MOVEMENT PATTERNS

Z. Campos et al. [2006, Herpetological Journal 16(2):123-132] studied movement patterns of caimans over a 16-year period in two areas of the Brazilian Pantanal, one dominated by intermittent rivers and another, adjacent region of many isolated lakes. Caimans were marked in 100 lakes (1986–2001) and two rivers (1987–1999). Recaptures comprised 163 adult males, 132 adult females and 237 juveniles. In a two-year interval, hatchlings moved only within the lake area or within the river area and the maximum distance moved was 6.0 km (mean = 0.5 km, SD = 1.0) in the lake area, and 1.25 km (mean = 0.6 km, SD = 0.3) in the river area. In a period of one year, females and males larger than 40 cm snout–vent length moved similar distances in both areas (max = 9.8 km). Forty-seven adult caimans were monitored by radiotelemetry in the river area for about a year. The size of the area used by telemetered individuals over periods of 30 to 436 days varied from two to 1649 ha. The areas used by five males in sites subjected to experimental hunting were similar to those used by five other males in areas not subjected to hunting. In periods of 1–5 years, females and males larger than 40 cm SVL moved maximum distances of 16 and 18 km, respectively. Five individuals marked as hatchlings in the lake area were recaptured as adults after intervals of 5–15 years. The extensive long-term and short-term movements by caimans mean that individual ranches should not be considered independent management units for sustained use of caimans in the Pantanal.

NATTERJACKS IN AN URBAN PARK

A. Husté et al. [2006, Amphibia-Reptilia 27(4):561-568] suggest that the isolation of animal populations due to urban activities provides a useful framework for studying the consequences of landscape fragmentation. The authors studied a population of natterjack toads (*Bufo calamita*) in an urban park near Paris, France. In 2001 and 2002 radio-tracking was used to estimate the terrestrial movements of adults around their breeding sites. Twenty-four toads were equipped with internal transmitters in 2001 to record movements during and after the breeding period. In 2002, 19 males were released at 300 and 380 meters from their breeding ponds. Natterjack toad movements around and outside their breeding ponds were reduced compared to previous observations on this species. The only exchanges that were observed occurred between closely neighboring breeding sites. During a translocation experiment in 2002, 58% of the displaced males returned to their site of capture and this happened mainly during the breeding period. The remaining 42% stayed close to the release site. There was no exchange of males between distant breeding sites. Natterjack toad conservation needs to take into account the high fidelity to a breeding site and the reduced breeding dispersal and homing ability of these animals. Conservation biology in urban landscapes constitutes a specific urban ecology with specific concepts such as “population area.” Information from this study can assist land managers in establishing protected areas of high habitat quality around breeding ponds in urban areas, and managing parks for the protection of amphibian populations, particularly by facilitating exchanges between available areas.

SAND SNAKE BIOLOGY

R. Shine et al. [2006, Copeia 2006(4):650-664] note that slender-bodied, diurnal “sand snakes” of the genus *Psammophis* are widespread and abundant through Africa, but the general biology of these animals remains poorly known. For example, sexual dimorphism is unstudied because it is difficult to determine the sex of live specimens (uniquely among snakes, the male hemipenis is vestigial). Dissections of 700 preserved specimens provide detailed ecological information on ten psammophiine species from southern Africa. Males grow larger than females in most taxa, especially in species of large absolute body size. However, sex differences in body proportions (relative head size, relative tail length) are minor. Females produce small clutches (generally < 10 eggs), with larger clutches in larger females in some but not all species. *Psammophylax tritaeniatatus* differs from the nine *Psammophis* species studied in its higher fecundity and its primary reliance on mammalian rather than reptilian prey. Within *Psammophis*, five species (*P. brevirostris*, *P. jallae*, *P. leopardinus*, *P. subtaeniatatus*, *P. trigrammus*) fed mostly on scincid lizards, two (*P. namibensis*, *P. notostictus*) fed mostly on lacertid lizards, and two (*P. trinasalis*, *P. mossambicus*) took approximately equal numbers of lizards and mammals. Although dietary composition thus varied with snake species and body size, conspecific males and females took similar prey types. Thus, despite reports of unusual mating systems in captive psammophiines, these snakes exhibit only minor sexual dimorphism in size, bodily proportions, and dietary habits.

Unofficial Minutes of the CHS Board Meeting, December 15, 2006

Rich Crowley called the meeting to order at 8:14 P.M. Board members Zorina Banas, Betsy Davis, Andy Malawy, Linda Malawy, Marybeth Trilling and Erik Williams were absent. A quorum was not present.

Officers' Reports

Recording Secretary: Kira Geselowitz (filling in for Zorina Banas) read the minutes of the November 17 board meeting. Minor adjustments were made and the minutes were accepted.

Treasurer: Rich distributed the balance sheet. The monthly raffle and membership fees were our main income, and we will more or less break even for the year.

Membership Secretary: Deb Krohn and Mike agreed that it stands at about 549. Our new membership brochure is ready to be printed and is on a disc to be approved by the board. Deb offered to take on some printing projects for the society and it was mentioned how we should try to allocate more things like printing amongst other members and not just those on the board.

Vice President: Linda Malawy was not present. We are still working on finding a January speaker and Whitney Banning is still scheduled for February.

Publications Secretary: Erik Williams was not present. "The bulletin this year had some great stuff in it." – Mike Dloogatch (editor). There has been a lot of positive feedback in general and congratulations were given to our fantastic editor.

Sergeant-at-arms: Attendance was about 43 at the last general meeting.

Committee Reports

Shows:

- The Great Lakes show will be February 10, 2007. There are no restrictions as to what you can bring to present at the show; contact Cindy Rampacek with any questions.
- There will be a Peggy Notebaert show on December 26, 10 A.M. – 3 P.M.
- We are still considering the Chicagoland Family Pet Show which will be held on St. Patrick's Day weekend.
- Reptile Rampage will be on Sunday, March 4, 2006. Contact Rob Carmichael if interested.

ReptileFest: Steve Sullivan is working on updating the ReptileFest website with new pictures, etc. The first ReptileFest committee meeting was on the 9th of December. We are looking into what discounts we can get to advertise in publications such as the *Sun-Times*.

Monthly Raffle: Josh Chernoff suggested having two separate raffles, one for the high-end items and one for smaller items. Tickets will probably be \$2 each for the high-end raffle. Silent auctions were also discussed and that Josh should feel free to experiment with different raffle/auction techniques. Josh also commented that there should perhaps be more short presentations on live animals at the general meetings.

Grants: There are now two applications in.

Awards: The awards are done and ready to be given out at the December meeting..

Old Business

December Holiday Event: There will be an e-mail vote among the board to appropriate \$150 for Linda and Jenny to buy munchies and drinks for the December meeting. Members should feel free to bring anything to share. Rich will be bringing his camera and photo printer for some holiday herp pictures.

Shedd Aquarium Visit: Jason Hood is still working on it; the event will probably be on the first Saturday in February and will be for members only.

Binder: Rich has been working on it and will be happy to pass it on.

List of vets: The list is finished and will soon get sent to Erik for publication.

No new business or round table discussion.

The meeting was adjourned at 9:35 P.M.

Submitted by Kira Geselowitz for the Recording Secretary



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Chicago Herpetological Society
Income Statement: January 1 – December 31, 2006

Income		Expense	
Adoptions	\$ 1,210.00	Adoptions	\$ 693.02
Grants	40.00	Grants	2260.00
ReptileFest	30,465.87	ReptileFest	20,293.13
Other CHS Shows	3,139.00	Other CHS Shows	686.89
Merchandise Sales	2,423.55	Merchandise Sales	1,356.75
Conservation — Massasaugas	80.00	Conservation — Massasaugas	0.00
Conservation — <i>Cyclura</i>	273.00	Conservation — <i>Cyclura</i>	0.00
Conservation — CIG*	405.00	Conservation — CIG	0.00
Membership Dues	12,735.80	Printing / Duplicating	17,494.48
Contributions	788.00	Addressing / Mailing Service	3,312.80
Amazon.com	103.92	Awards	123.67
Bulletin Ads	12.00	Bank Fees	34.11
Bulletin Back Issues	12.00	Donations	150.00
Interest	348.59	Liability Insurance	5,414.00
Raffle	870.00	Library	604.83
		Licenses and Permits	75.00
		Equipment	160.00
		Postage	2,698.52
		Rent (board meetings)	525.00
		Speaker Reimbursement	1,480.39
		Telephone	564.86
		Miscellaneous	145.41
Total Income	\$52,906.73	Total Expense	\$58,072.86

* CIG = Cryptobranchid Interest Group

Net Income \$(5,166.13)

Chicago Herpetological Society
Balance Sheet: December 31, 2006

Assets

Checking	\$ 7,081.04
Money Market	23,704.89
Total Assets	<u>\$30,785.93</u>

Equity

Restricted — Adoptions	\$ 5,795.25
Restricted — Grants	40.00
Restricted — Massasauga	152.00
Restricted — <i>Cyclura</i>	273.00
Restricted — CIG	405.00
Retained Earnings	29,261.81
Net Income	(5,166.13)
Total Equity	<u>\$30,785.93</u>

Advertisements

Feeder Roaches: *Blaptica dubia*, all sizes, meaty and nutritious. Free samples to CHS members, or buy a starter colony to make your own. Superior to crickets in every way. This non-flying, slow moving, non-climbing species is very easy to breed and easy for your reptiles to catch. One starter colony of 100+ mixed sizes, \$25. If you don't know about roaches as feeders, read up on them; you'll never need to deal with the hassles of crickets again. Email: aasagan@msn.com

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutritionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinkies, \$.17 each; fuzzies, \$.24 each; hoppers, \$.30 each; weanling, \$.42; adult, \$.48. Rats: starting with pinkies at \$.45 each, to XL at \$1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. PO Box 85, Alpine TX 79831. Call **toll-free** at (800) 720-0076 or visit our website: < <http://www.themousefactory.com> > .

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice available: small newborn pinkies up to jumbo adults. Prices start at \$25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: books. *Distribution of Mammals in Colorado* by David M. Armstrong, 1972, Monograph of the University of Kansas Museum of Natural History, 415 pp., 36 tables, 133 figs. (mostly range maps), 8 plates (b&w photos), former owner's name and address inside front cover, hardbound, \$36; *Boy's Book of Snakes* by Percy Morris, 1948, 185 pp., many b&w photos, some ink marks on first page, hardbound, \$15; *Australian Tropical Rainforest Life* by Clifford and Dawn Frith, 1987, 70 pp., one or two excellent color photos on every page, birds, mammals, amphibians and reptiles, invertebrates, reptiles (14 pp.) include geckos, skinks, pythons, softbound, \$14; *Reptiles of Australia* by Charles Barrett, 1950, 168 pp., many b&w photos, drawings, no DJ, hardbound, \$80; *Australian Geographic* journal—Jan.-March 1999 issue, contains articles on funnel-web spiders, Cobourg Peninsula, trek to South Pole among others, comes with color poster of Australian venomous snakes—April-June, 1999 issue, articles on quolls and Grampians National Park. Both issues are 128 pp., each with info and excellent color photos of interest to Australophiles, \$12 per issue. All publications in excellent condition except as noted. Postage and handling \$2.50 for orders under \$25, free for orders \$25 or more. William R. Turner, 7395 S. Downing Circle W., Centennial, CO 80122, (303) 795-5128; e-mail: toursbyturner@aol.com

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: < <http://www.bluechameleon.org> > , E-mail: bill@bluechameleon.org, or call (239) 728-2390.

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Virtual Museum of Natural History at www.curator.org: Free quality information on animals—emphasis on herps—plus expedition reports, book reviews and links to solid information. Always open, always free.

Wanted: I'm looking for my soulmate. I want to settle down to a family before it is too late. But I have this problem. . . . When we get into hobbies and interests: old popular records, jazz and show tunes, and antique electronics are fine, but when I mention turtles, "What, are you crazy?" So maybe this is a better place to look. Please don't try to separate me from my turtles—at least not most of them. If interested, please drop a line to Ellis Jones, 1000 Dell, Northbrook IL 60062, telling a bit about yourself and giving a phone number.

Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: MADadder0@aol.com

Have Fun!

ReptileFest 2007

April 14–15

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, January 31, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Dr. Robert Brodman**, professor of biology and environmental science at Saint Joseph's College in Rensselaer, Indiana, will speak on "Dr. Bob's Wild Herping Adventures in Africa."

At the February 28 meeting, **Whitney Banning**, a graduate student at the University of Illinois and 2005 CHS grant recipient, will speak to us on her work with Blanding's turtle conservation.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the February 16 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot to the left and behind the building.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: <http://www.geocities.com/~chicagoturtle>.

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